OF CLASSES AND SUBCLASSES OF HUMAN SERUM IMMUNOGLOBULINS TABLE 4-2 PROPERTIES AND BIOLOGICAL ACTIVITIES\*

Property/Activity	IgG1	IgG2	IgG3	IgG4	IgAl	IgA2	IgM	IgE	IgD
Molecular weight <sup>†</sup>	150,000	150,000	150,000	150,000	150,000-	150,000-	900,000	190,000	150,000
Heavy-chain	$\gamma 1$	72	٧3	44	600,000 α1	600,000	Ξ	u	æ
component	. σ	٠,	<u>.</u> –	י ל	3 0	3 0	1. <u>u</u>	, 000	
level (mg/ml)	, , ,	, "	- 0	 	S:	 	 	0.0003	0.03 ,
half life (days)	C7	3	0	<b>C</b> 7	o	o	n	7.5	S
Activates classical	+	-/+	++	I	i	ļ	++++	1	ı
complement pathway									
Crosses placenta	+	-/+	+	+	ı	İ	ı	I	ŀ
Present on	I	i	ı	I	1	1	+	1	+
membrane of									
mature B cells									
Binds to Fc	++	-/+	++	+	I	I	٨.	ı	ı
receptors of									
phagocytes									
Mucosal transport	ľ	1	ı	1	+++	+++	+	ı	I
Induces mast-cell	I	l	ı	1.	ļ	ı	1 .	+	ı
uegrannianon									

<sup>\*</sup>Activity levels indicated as follows: ++= high; += moderate; +/-= minimal; -= none; ?= questionable.

<sup>11</sup>gG, 1gE, and 1gD always exist as monomers; 1gA can exist as a monomer, dimer, trimer, or tetramer. Membrane-bound IgM is a monomer, but secreted IgM in serum is a pentamer.

<sup>#</sup>IgM is the first isotype produced by the neonate and during a primary immune response.

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## IMMUNOLOGY

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RICHARD A. GOLDSBY

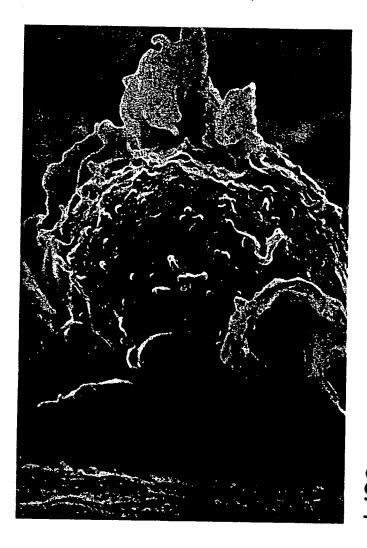
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